



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/586,346

07/14/2006

Yuichi Tsukaguchi

12137-0005

2788

22902

7590

03/10/2009

CLARK & BRODY

1090 VERMONT AVENUE, NW

SUITE 250

WASHINGTON, DC 20005

EXAMINER

KASTLER, SCOTT R

ART UNIT

PAPER NUMBER

1793

MAIL DATE

DELIVERY MODE

03/10/2009

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/586,346	<b>Applicant(s)</b> TSUKAGUCHI, YUICHI	
	<b>Examiner</b> Scott Kastler	<b>Art Unit</b> 1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 July 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. ____.                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>10/5/07, 7/14/06</u> .  | 6) <input type="checkbox"/> Other: ____.                          |

***Abstract***

The abstract of the disclosure is objected to because the abstract should be in the form of a single paragraph no more than 15 lines or 150 words in length. Correction is required. See MPEP § 608.01(b).

***Drawings***

Figure 11 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 5 is rejected under 35 U.S.C. 102(b) as being anticipated by Brook et al. Brook et al, in the embodiment of figure 4 for example, teaches an immersion nozzle including a pair of facing outlet ports in the bottom part of the nozzle where the ports decrease in cross sectional area towards their exits, thereby showing all aspects of the above claim.

Art Unit: 1793

Claim 5 is rejected under 35 U.S.C. 102(b) as being anticipated by Damle. Damle, in the embodiment of figure 1 for example, teaches an immersion nozzle including a pair of facing outlet ports in the bottom part of the nozzle where the ports decrease in cross sectional area towards their exits, thereby showing all aspects of the above claim.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Augustine III, Augustine III teaches an immersion nozzle for continuous casting, in the embodiment of figure 3 for example, which includes a waterfall basin with a pair of outlet ports (the instant claim language allows for more than a single pair of outlet ports) and a ridge shaped projection (31) formed on an inner surface of the bottom part where the ridge shaped projection is the same height or close to the height of the waterfall like basin, said basin in the form of an oval or ellipse of a larger diameter than the inner nozzle diameter which operates in substantially the same manner with substantially the same stated results as recited in the instant claims, thereby showing all aspects of the above claims except the specifically recited sizes or shapes of the named components, although the recited sizes and shapes could be employed within the scope of the invention disclosed by Augustine III. It has been well settled that motivation to alter the size or shapes of a component shown by the applied prior art without materially altering the effect of

Art Unit: 1793

the components would have been a modification obvious to one of ordinary skill in the art at the time the invention was made. See MPEP 2144.04 IV A and B. In the instant case, motivation to alter the size and/or shapes of the basin, projection or port sizes and shapes recited by Augustine III to any other equally useful size or shape, including those instantly recited, would have been a modification obvious to one of ordinary skill in the art at the time the invention was made.

Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Naruse et al. Naruse et al teaches an immersion nozzle for continuous casting, in the embodiment of figure 1 for example, which includes a waterfall basin with a pair of outlet ports (4a and 4b) and a ridge shaped projection (5) formed on an inner surface of the bottom part, said basin in the form of an oval or ellipse of the same or larger diameter than the inner nozzle diameter, which operates in substantially the same manner with substantially the same stated results as recited in the instant claims, thereby showing all aspects of the above claims except the specifically recited sizes or shapes of the named components, although the recited sizes and shapes could be employed within the scope of the invention disclosed by Naruse et al. It has been well settled that motivation to alter the size or shapes of a component shown by the applied prior art without materially altering the effect of the components would have been a modification obvious to one of ordinary skill in the art at the time the invention was made. See MPEP 2144.04 IV A and B. In the instant case, motivation to alter the size and/or shapes of the basin, projection or port sizes and shapes recited by Naruse et al to any other equally useful size or shape, including those instantly recited, would have been a modification obvious to one of ordinary skill in the art at the time the invention was made.

Art Unit: 1793

Claims 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over either of Brook et al or Damle. As applied to claim 5 above, each of Brook et al and Damle teach an immersion nozzle showing all aspects of the above claims except the specifically recited sizes or shapes of the named components, although the recited sizes and shapes could be employed within the scope of the invention disclosed by each of Brook et al and Damle. It has been well settled that motivation to alter the size or shapes of a component shown by the applied prior art without materially altering the effect of the components would have been a modification obvious to one of ordinary skill in the art at the time the invention was made. See MPEP 2144.04 IV A and B. In the instant case, motivation to alter the size and/or shapes of the basin, projection or port sizes and shapes recited by either of Brook et al or Damle to any other equally useful size or shape, including those instantly recited, would have been a modification obvious to one of ordinary skill in the art at the time the invention was made.

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over either of Augustine III or Naruse et al. As applied to claim 1 above each of Augustine III or Naruse et al show all aspects of the above claim except the instantly recited flow rate, although each of the nozzles of Augustine III and Naruse et al can operate at such flow rates if desired. Absent any demonstrated new or unexpected result arising therefrom, motivation to operate the nozzles and systems of either of Augustine III or Naruse et al at any desired flow rate which the nozzles are capable of operating at would have been a choice obvious to one of ordinary skill in the art at the time the invention was made.

Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over either of Damle or Brook et al. As applied to claim 5 above each of Damle or Brook et al show all aspects of the

Art Unit: 1793

above claim except the instantly recited flow rate, although each of the nozzles of Damle or Brook et al can operate at such flow rates if desired. Absent any demonstrated new or unexpected result arising therefrom, motivation to operate the nozzles and systems of either of Damle or Brook et al at any desired flow rate which the nozzles are capable of operating at would have been a choice obvious to one of ordinary skill in the art at the time the invention was made.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Scott Kastler whose telephone number is (571) 272-1243. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1793

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Scott Kastler/  
Primary Examiner, Art Unit 1793

sk



Application/Control Number: 10/586,346

Page 8

Art Unit: 1793